

## MASTER'S DEGREE IN GEOGRAPHICAL INFORMATION TECHNOLOGIES

### BASIC COMPETENCES:

- Apply the knowledge acquired and their problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.
- Integrate knowledge and deal with the complexity of decision making on the basis of information which, albeit incomplete or limited, includes considerations of social and ethical responsibilities linked to the application of their knowledge and judgements.
- Communicate their findings, knowledge and underlying rationale to specialist and non-specialist audiences clearly and unambiguously.

### GENERAL COMPETENCES:

- To correctly apply the functions of analysis and representation of geographical information to solve different kinds of territorial problems.
- Combine GIT knowledge and skills to advance solutions to unresolved territorial problems.
- Use bibliographical, documentary and cartographic information to implement a GIT project, including information from scientific journals and specialized databases.

### SPECIFIC COMPETENCES:

- Apply the most appropriate data sources, projections and techniques available for the production and dissemination of analogue or digital thematic mapping.
- Apply the mathematical, conceptual and formal foundations of thematic mapping and geo-visualization in the design and production of maps and cartographic sets.
- Interpret the interaction of the electromagnetic signal with the main terrestrial covers to solve the territorial problems that can be studied with remote sensing.
- Choose adequately the most suitable remote sensing sensors for a given environmental study.
- Know and apply the main image analysis techniques to extract the thematic information of interest in territorial analysis and management.
- Use GIS data entry and transformation functions to create the different thematic layers relevant to the resolution of a territorial problema.
- Apply the principles of spatial analysis and reasoning necessary for the resolution of territorial problems.
- Apply the main concepts and programming structures in writing macros and operational scripts in different programs in the field of GIT.
- Develop and document procedures for the collection, analysis or publication of GIT territorial information through appropriate programming languages and validation procedures.
- Plan the tasks of a GIS project in order to adapt it to the required time and quality objectives.
- Apply the bases of the scientific method to tackle the resolution of new or vaguely defined problems that allow progress in knowledge in the field of GIT.

For additional information, see the [Memorandum](#).